advantage; the strain was found to be less than one-half that of the single jib-crane, and it consequently required fewer men to work it.

He had also applied a rope instead of a chain for working the jib, as it was preferred by some builders, and he had also made some minor improvements in the other parts of the cranes.

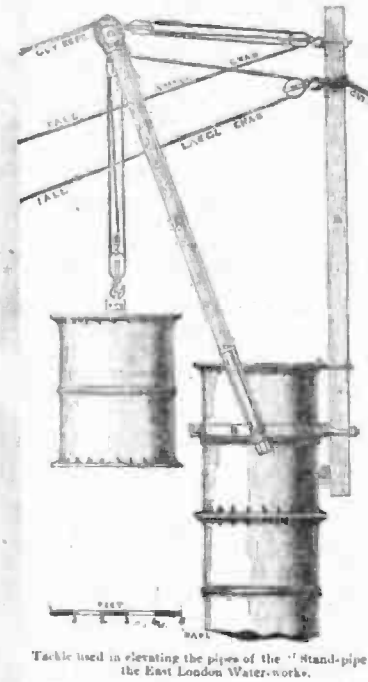
These kind of cranes were, he believed, introduced by Mr. W. York, at Glasgow, in the year 1833, and Mr. Gale had used the improved sort in 1842, at the erection of the New Court Houses, Glasgow. Since that time many builders had adopted them, and their advantages were becoming daily so evident, that he would send, early in the ensuing session, a paper descriptive of them.

Mr. Thomson believed, that cranes of this description were first used at Glasgow by builders. The contractor for the Grangemouth Docks, under Sir John Macneil, employed them in 1841 and 1842 with much advantage; he thought them the most useful kind of cranes for general work.

The President agreed in the opinion of the general utility of the cranes; he had been so pleased with them, that he requested Mr. Hawkins to present to the Institution the model of that used at Granton Pier. With respect to the date of the introduction of the swinging-jib, or moveable derrick crane, it was used at Granton Pier by Messrs. Orrell, of Liverpool, in 1838, and he believed, that it had been commonly used by them for some time previously.

Mr. Wicksteed presented a drawing of the tackle used in elevating pipes of the "stand-pipe" of the East London Waterworks (Fig. 4). A piece of timber (A),

Fig. 4.



Tackle used in elevating the pipes of the "Stand-pipe" at the East London Water-works.

9 inches square, was attached vertically to the upper flanch of the pipe, and held below by an iron girdle (B), which encircled the body of the pipe; guy ropes were attached to the top of the upright, which served as the points of suspension for the snatch blocks, through which were passed the fall ropes from the large and the small crab winches. The iron girdle had at its opposite sides two pivots, which traversed the lower end of two timber jibs (C), connected at their upper ends by a cross piece (D), from the centre of which were suspended the blocks and tackle connected with the large crab, by which the pipes were raised. When each pipe had arrived at its height, the jib frame was drawn up vertically by the tackle from the small crab, and the pipe was lowered to its position; the pins were put into the flanches, and the whole apparatus was raised and attached to it, in order to use it for raising the next pipe. This process was repeated until the stand-pipe was finished at a height of upwards of 130 feet. It was stated to be a very simple and economical mode of proceeding.

Correspondence.

TUBULAR CHIMNEY-FLUES.

Sir,—Observing in The Builder a controversy respecting tubular chimney-flues, I beg to acquaint you that tubular chimney-flues were introduced here at Abbotsford, by John and Thomas Smith, of Darnick, in the year 1822, and I never saw or heard of them before that time.

Their flues were in pieces of 12 inches high, and from 9 to 15 inches diameter inside. They were made of a mixture of fine clay and common clay, about 1¼ inch thick. To form the inflections, they were made a little off the square on one end, so that when put together, they formed a curve.

Since that time these flues have been very much used in this neighbourhood.—I am, Sir, your most obedient servant,

A Constant Reader.

Melrose, 10th January, 1845.

THE WINDOW-TAX.

Sir,—I have just made a Venetian window of three lights, divided by two 1¼ inch mullions, for which the opening between the outside brickwork of the whole window is 4 feet 9 inches. The boxings are placed in the usual way in the reveals, and the window frame is seen on the inside, and makes the window there, including the frame, more than 5 feet 6 inches wide. The height of the whole frame, including head and cill, is 7 feet 6 inches.

Is such a window liable to be charged as a *double* light under the Window-tax Acts? And if so, *why?*—Your answer will oblige,

A Joiner.

Oswestry, Jan. 13, 1845.

[Windows above 4 feet 9 inches in width between the reveals, are charged as double lights; except in shops, workshops, and warehouses, or in the public room of any house licensed to sell liquors by retail or in farmhouses especially exempted from the duties on houses.—Ed.]

BLISTERS IN LIME.

Sir,—May I beg the favour of inserting the following in your excellent journal, The Builder:—

I shall be obliged by any one of your readers informing me whether a lime which is subject to blister and crack can by any means be prepared or mixed with any other material so as to prevent such mishaps.—Your most obedient servant,

W. S. S.

[Is the lime in question properly prepared? Blisters usually result from the lime not being thoroughly slaked before it is used. Some limes crack in drying, when slaked with too much water. They cannot combine with the fluid, and when this is withdrawn by evaporation, shrinkage takes place.—Ed.]

MODEL (?) HOUSES, PENTONVILLE.

Sir,—The public is much indebted to you for your comments on the so-called model houses in the Bagnigge-wells-road. Pray do not relax in your efforts to effect an alteration in them. The present plan is perfectly preposterous.—Your obedient servant,

A Member of the Society.

[We shall not fail to return to the subject shortly.—Ed.]

Another Fire from over-heated Flue.—On Tuesday night, shortly after 10 o'clock, police constable Reeve, perceiving smoke issuing from the lower part of the extensive premises in the occupation of W. Thomas and Brothers, 128 and 129, Cheapside, gave an immediate alarm to the engine station at Watling-street. Mr. Braidwood and two engines from that establishment were soon upon the spot, and upon an entrance being effected, it was discovered that the flue of the apparatus for warming the premises had been over-heated, and was communicating with the timbers of the flooring underneath the shop. The discovery was most opportune; as it is, however, considerable injury is done by smoke and water.

Miscellanea.

Warehousing.—There is now a warehouse in the course of erection in Manchester which seems deserving of especial notice on account of its extent, as well as its mode of construction. It is the property of Messrs. Philips, and Co., the oldest, wealthiest, and certainly the most respectable firm within the borough. Its site is in Church-street, and adjoining their present large establishment. Its basement story is equal to that of Messrs. Watts, within a few superficial yards. The area of the various floors will be within a shade of a statute acre, whilst the entire concern would cover over two statute acres. The building is to be completely fire-proof; not an inch of timber will, it is said, be used in its construction. It is built of the best stock dressed brick, and instead of plastering the inner walls, the inside brick-work will be faced with dressed stock-brick, similar to the outside, with this difference, however, that the inside facing will be laid in Roman cement, thus making the inner walls impervious to damp—a great desideratum in a *haberdashery* concern like this. It is somewhat singular that the Messrs. Philips should have been the first to introduce fire-proof cotton-mills—the first, too, to introduce gas into a cotton-mill, which was effected in 1801-2, to a large extent,—and also to be the first to build a fire-proof warehouse, for the first it will be in Manchester, that has been erected for the sale of goods only.—*Lancaster Gazette.*

Wilton.—We understand that the internal decoration of the church building at Wilton, at the expense of the Hon. Sydney Herbert, M.P., is to be completed by Mr. Willement, in the style of the Temple church. We believe Mr. Boxall had been engaged upon it; but now decorative painting is to be preferred to designs of a higher character.—*Historical Register.*

Moving Brick Houses.—The *Boston Daily Advertiser* of the 20th ult says, "A very neat and successful operation was performed in Lincoln-street, in the removal of a block of two large three-story brick dwellings a distance of some 10 or 15 feet, for the widening of the street. The new foundation for the houses had been of course previously prepared, and the houses themselves were placed on a sort of railway, preparatory to their removal. The movement was effected by means of jack-screws, acting in a horizontal direction. The construction of the tracks or ways was novel and extremely simple. They consisted of double lines of cast-iron plates, inserted between the foundations of each of the walls of the building itself; and for wheels, or rollers, cannon balls of equal size were placed between the two lines of plates—the upper plates being inverted. As the foundations of these ways consisted of the original foundation of the building, there could of course be no hazard of yielding, as the whole building rested on walls of equal size: it was moved without any dislocation or cracking of the walls in any part, or of the finishing. The operation of removing the building was performed under the direction and superintendence of Mr. Preston, of the Board of Aldermen, and has been accomplished with entire success. We understand, also, that it has been done at a very moderate expense, compared with the advantage gained of placing the whole edifice on its new foundation without the slightest injury, and without hazard of serious accident."

Fire-proof Construction.—At the conclusion of the inquest on the bodies of the sufferers in the late fire in Guildford-street, and before the jury separated, Mr. Geary, the architect, exhibited the model of a house, which he said was so far fire-proof as to ensure the saving of life. Its chief merits consisted in brick partition-walls, instead of lath and plaster, and in having the panels of the doors of sheet-iron. This confined the fire in whatever room it occurred. He stated, that this mode of building was not more expensive than the lath and plaster one usually pursued in London.

Improved System of Drainage.—It is so currently reported and believed that Government, during the approaching session, intend to introduce a Bill for the improvement of the system of draining towns, that, in some instances, works, which otherwise would have been commenced, have been postponed.

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